



Sparks Brain Preservation Monthly Update - August 2026

New Registered Clients This Month (Sign Ups and/or Annual Memberships): 7

Week of July 27th

We practiced our brain preservation techniques on four whole body donors this week. Our preprint manuscript “Perfusion quality does not necessarily predict ultrastructural preservation after hyperosmotic brain perfusion”, was uploaded this week:

<https://www.biorxiv.org/content/10.64898/2026.07.27.741074v1>

Week of Aug 3rd

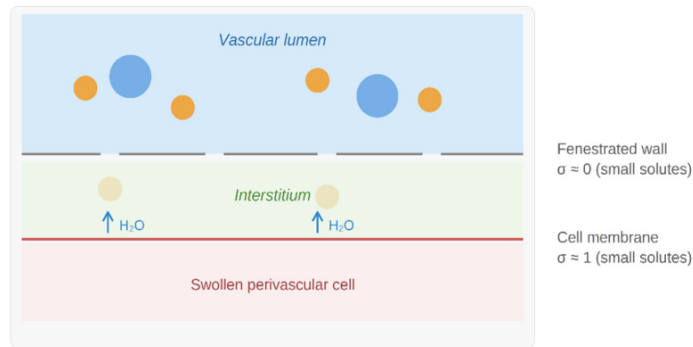
We practiced our brain preservation techniques on four whole body donors and two dogs this week.

Week of Aug 10th

This week our review paper on strategies to overcome perfusion impairment in the ischemic brains was published. Here it is: <https://www.mdpi.com/2673-4087/7/4/89>

One of the relevant factors is osmotic agents and colloids that can be added to the perfusate, whose effect depends on the status of the blood-brain barrier (BBB), which is present in most (but not all) parts of the brain:

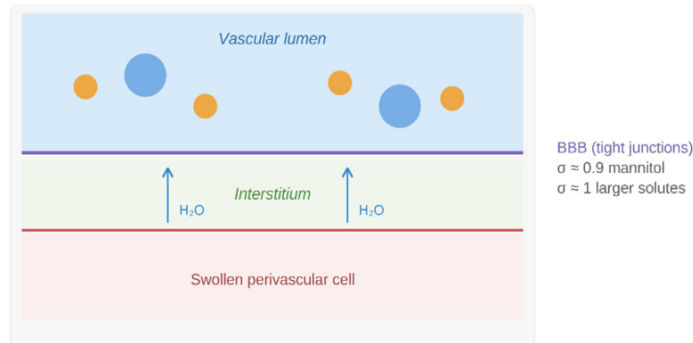
a Non-cerebral organ



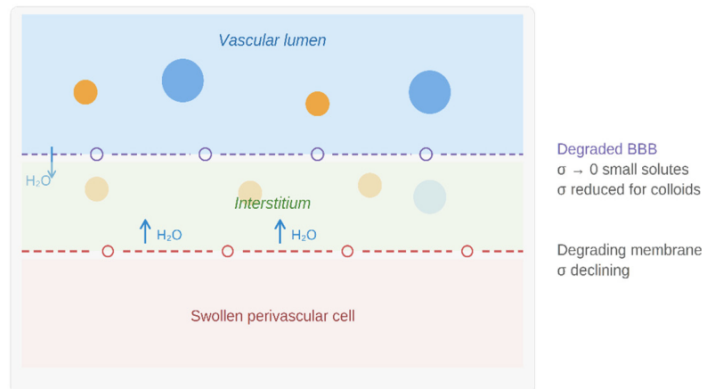
Legend

- Osmotic agent (e.g., mannitol)
- Colloid (e.g., albumin, polyethylene glycol 35)
- Barrier breakdown
- Water movement (H₂O)
- σ : reflection coefficient

b Brain — short ischemia time (intact BBB)



c Brain — longer ischemia time (degraded BBB)



Week of Aug 17th

We practiced our brain preservation techniques on three whole body donors this week. Our systematic review on how long the brain remains perfusable after circulatory arrest was published: <https://www.mdpi.com/2076-3425/16/8/882>.

Week of Aug 24th

We practiced our brain preservation techniques on four whole body donors and one donated dog this week. Our paper on cryopreservation of aldehyde-fixed brains was published: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0344932>. This paper describes our new standard method for long-term storage, known as aldehyde-based cryopreservation (ABC). We are starting to transfer our patients in long-term care over to this protocol (with some exceptions) with the eventual plan of performing long-term preservation at -20°C, once the

immersion cryoprotection is complete. Our page on Our Preservation Approach was also updated: <https://sparksbrain.org/ourPreservationApproach.html>.